Listing of claims:

1. (Currently Amended) A method for <u>a downlink code generator to generate</u> ~~generating a new initial state that is used in producing~~ a downlink scrambling code, <u>the method</u> comprising:

selecting a first initial state and a second initial state <u>for the downlink code generator</u>;

providing the first initial state to an auxiliary linear feedback shift register <u>in the downlink code generator</u>;

determining whether the downlink scrambling code <u>of the downlink code generator</u> is a secondary downlink scrambling code;

advancing the first initial state <u>of the downlink code generator</u> according to a secondary index when the downlink scrambling code is a secondary downlink scrambling code; and

advancing the first initial state <u>of the downlink code generator</u> according to a primary index such that the new initial state is produced.

2. (Currently Amended) The method of claim 1, further comprising providing the new initial state and second initial state to a first main linear feedback shift register <u>in the downlink code generator</u> and a second main linear feedback shift register <u>in the downlink code generator,</u> respectively, such that the downlink scrambling code is produced by combining a set of outputs corresponding to the outputs of the first main linear feedback shift register and the second main linear feedback shift register.

3. (Currently Amended) The method of claim 1, wherein the first initial state and the second initial state <u>of the downlink code generator</u> are selected such that they correspond to a predetermined slot jump.

4. (Currently Amended) The method of claim 1, wherein advancing the first initial state according to a secondary index further comprises pre-running the auxiliary linear feedback shift register <u>in the downlink code generator</u> for a predetermined number of samples that corresponds to secondary index.

5. (Currently Amended) The method of claim 4, wherein pre-running the auxiliary linear feedback shift register in the downlink code generator is triggered according to a timing control such that the first initial state is advanced according to the secondary index and the primary index prior to operation of the first main linear feedback shift register in the downlink code generator and a second main linear feedback shift register in the downlink code generator.

6. (Currently Amended) The method of claim 1, wherein advancing the first initial state according to a primary index further comprises combining the first initial state with a calculated primary-mask that corresponds to a selected primary downlink scrambling code for the downlink code generator.

7. (Currently Amended) The method of claim 1, further comprising fixing a set of masks used in producing the downlink scrambling code of the downlink code generator, whereby memory usage is reduced.

8. (Currently Amended) A method for ~~generating~~ a downlink code generator to generate a downlink scrambling code, the method comprising:

selecting a first initial state and a second initial state for the downlink code generator;

providing the first initial state to an auxiliary linear feedback shift register in the downlink code generator;

producing a new initial state for the downlink code generator by advancing the first initial state according to at least one of a primary index and a secondary index; ~~and~~

providing the new initial state and the second initial state to a first main linear feedback shift register in the downlink code generator and a second main linear feedback shift register in the downlink code generator, respectively; and

_____ ~~, such that~~ producing the downlink scrambling code ~~is produced~~ by combining a set of outputs corresponding to outputs of the first main linear feedback shift register in the downlink code generator and the second main linear feedback shift register in the downlink code generator.

9. (Currently Amended) The method of claim 8, wherein the first initial state and the second initial state for the downlink code generator are selected such that they correspond to a predetermined slot jump.

10. (Currently Amended) The method of claim 8, wherein advancing the first initial state according to a secondary index further comprises pre-running the auxiliary linear feedback shift register in the downlink code generator for a predetermined number of samples that corresponds to secondary index.

11. (Currently Amended) The method of claim 10, wherein pre-running the auxiliary linear feedback shift register in the downlink code generator is triggered according to a timing control such that the first initial state is advanced according to the secondary index and the primary index prior to operation of the first main linear feedback shift register in the downlink code generator and a second main linear feedback shift register in the downlink code generator.

12. (Currently Amended) The method of claim 8, wherein advancing the first initial state according to a primary index further comprises combining the first initial state with a calculated primary-mask that corresponds to a selected primary downlink scrambling code for the downlink code generator.

13. (Currently Amended) The method of claim 8, wherein the outputs of the first main linear feedback shift register in the downlink code generator and the second main linear feedback shift register in the downlink code generator are provided to at least one of a set of fixed masks to produce the set of outputs that are combined to produce the downlink scrambling code for the downlink code generator.

14. (Currently Amended) A downlink scrambling code generator, comprising:

an auxiliary linear feedback shift register that is arranged to receive a first initial state;

a primary-mask that is combined with an initial state of the auxiliary linear feedback shift register to produce a new initial state;

a first main linear feedback shift register that is arranged to receive the new initial state;

a second main linear feedback shift register that is arranged to receive a second initial state;

a set of fixed masks that are arranged to receive outputs from the first main linear feedback shift register and the second main linear feedback shift register; and

a set of logic gates that are arranged to produce a set of outputs in response to the outputs from the first main linear feedback shift register and the second main linear feedback shift register and other outputs from at least one of the set of fixed masks, wherein the set of outputs are combined to produce a downlink scrambling code.

15. (Original) The downlink scrambling code generator of claim 14, further comprising a timing control that is arranged to trigger the auxiliary linear feedback shift register to pre-run when the downlink scrambling code to be produced corresponds to a secondary downlink scrambling code.

16. (Original) The downlink scrambling code generator of claim 15, wherein auxiliary linear feedback shift register pre-runs a number of samples that corresponds to a secondary index that is related to the downlink scrambling code to be produced.

17. (Original) The downlink scrambling code generator of claim 14, wherein the primary-mask corresponds to one of a set of primary masks that each correspond to a set of possible primary downlink scrambling codes.

18. (Original) The downlink scrambling code generator of claim 14, wherein the set of fixed masks allows memory allocated to storing the state of each mask in the set of fixed masks to be minimized.

19. (Original) The downlink scrambling code generator of claim 14, wherein the set of logic gates are at least one of AND logic gates and XOR logic gates.

20. (Original) The downlink scrambling code generator of claim 14, wherein the first initial state and the second initial state are set to correspond to any selected slot jumps.